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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,009	03/31/2004	James Christopher Deepak	1880.004US1	9222

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MINNEAPOLIS, MN 55402

EXAMINER

PHAM, LONG

ART UNIT	PAPER NUMBER
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2814

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/815,009

Applicant(s)

DEEPAK ET AL.

Examiner

Long Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 30-46 is/are pending in the application.
- 4a) Of the above claim(s) 6-11, 30-39 and 44-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12, 14-17, and 40-43 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

New grounds of rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 12, 14-17, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (publication no. 59085395) in combination with McAndrew (US patent 6,066,402) and the applicant's admitted prior art (AAPA) of this application.

With respect to claims 1, 2, and 3, Shimizu et al. teach a lead comprising a lead solder layer or coating or plating or finish layer including 97.5 percent weight of lead, 1.5 percent weight of silver, and a balance of tin. See the English abstract.

Shimizu et al. teach the lead solder layer or coating including 97.5 percent weight of lead but fail to teach the weight percent of lead is 80 to 87 percent or 82 to 87 or 82 to 84 percent.

McAndrew teaches a lead solder layer or coating or finish layer having 83 to 87 percent weight of lead to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

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Further with respect to claims 1 and 3, Shimizu et al. teach the lead solder layer or coating including 1.5 percent weight of silver but fail to teach the weight percent of silver is 0 to 1 percent.

However, it is submitted that since the difference between claimed range and range of Shimizu et al. are very small, the difference would not produce any significant changes.

Further with respect to claim 3, Shimizu et al. appear to fail to teach that lead solder layer or coating or plating further includes 9-11 percent weight of antimony.

McAndrew teaches a lead solder layer or coating or finish layer having 8.5 to 11.5 percent weight of antimony to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

With respect to claim 4, Shimizu et al. further teach that the lead or electrode 2 is coupled to a lead or electrode 4 of a surface mount component. See disclosed figures and English abstract.

With respect to claim 5, Shimizu et al. fail to teach coupling the lead to a electronic or downhole electronic components or circuitry or assembly (including amplifier or processor or pressure sensor) or transducer or assembly.

AAPA teaches using lead to couple electronic components or circuitry assembly (including downhole transducer or assembly) (including amplifier or processor or pressure sensor) to provide electrical connections between electronic components or circuitry assembly (including downhole transducer or assembly). See page 1 of this application.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of AAPA into the device Shimizu et al. to attain the above benefit.

With respect to claim 12, Shimizu et al. teach a lead comprising a lead solder layer or coating or plating or finish layer including 97.5 percent weight of lead, 1.5 percent weight of silver, and a balance of tin. See the English abstract.

Shimizu et al. teach the lead solder layer or coating including 97.5 percent weight of lead but fail to teach the weight percent of lead is 80 to 87 percent or 82 to 87 or 82 to 84 percent.

McAndrew teaches a lead solder layer or coating or finish layer having 83 to 87 percent weight of lead to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

Further with respect to claim 12, Shimizu et al. teach the lead solder layer or coating including 1.5 percent weight of silver but fail to teach the weight percent of silver is 0 to 1 percent.

However, it is submitted that since the difference of claimed range and range of Shimizu et al. are very small, the difference would not produce any significant changes.

With respect to claims 12, 14, 16, and 17, Shimizu et al. fail to teach coupling the lead to a electronic or downhole electronic components or circuitry or assembly (including amplifier or processor or pressure sensor) or transducer or assembly.

AAPA teaches using lead to couple electronic components or circuitry assembly (including downhole transducer or assembly) (including amplifier or

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processor or pressure sensor) to provide electrical connections between electronic components or circuitry assembly (including downhole transducer or assembly).

See page 1 of this application.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of AAPA into the device Shimizu et al. to attain the above benefit.

With respect to claim 15, it is submitted that a downhole transducer would be inherently capable of measuring a downhole temperature or pressure.

With respect to claim 40, Shimizu et al. teach a composition including 97.5 percent weight of lead, 1.5 percent weight of silver, and a balance of tin. See the English abstract.

Shimizu et al. teach the lead solder layer or coating including 97.5 percent weight of lead but fail to teach the weight percent of lead is 78 to 82.9 percent.

McAndrew teaches a lead solder layer or coating or finish layer having 83 to 87 percent weight of lead to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

Further with respect to claim 40, McAndrew teaches the including 83 to 87 percent of lead but fail to teach the weight percent of lead is 78 to 82.9 percent.

However, it is submitted that since the difference between claimed range and range of McAndrew are very small, the difference would not produce any significant changes.

Further with respect to claim 40, Shimizu et al. appear to fail to teach that lead solder layer or coating or plating further includes 9-11 percent weight of antimony.

McAndrew teaches a lead solder layer or coating or finish layer having 8.5 to 11.5 percent weight of antimony to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

With respect to claims 40 and 41, Shimizu et al. fail to teach coupling the composition to a electronic or downhole electronic components or circuitry or assembly (including amplifier or processor or pressure sensor) or transducer or assembly.

AAPA teaches using lead including the composition to couple electronic components or circuitry assembly (including downhole transducer or assembly) (including amplifier or processor or pressure sensor) to provide electrical connections between electronic components or circuitry assembly (including downhole transducer or assembly). See page 1 of this application.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of AAPA into the device Shimizu et al. to attain the above benefit.

Further with respect to claims 42 and 43, AAPA further teaches coupling a electronic component (including a downhole transducer or processor or data acquisition system or filter) to a circuit trace in a circuit coupled to a lead.

Response to Arguments

Applicant's arguments with respect to claims 1-5, 12, 14-17, and 40-43 have been considered but are moot in view of the new ground(s) of rejection.

In response to the applicant's arguments in the paragraphs on page 10 of the amendment dated 01/30/07, it is submitted that the motivation for incorporating the teaching of McAndrew into the structure of Shimizu et al. is to achieve good

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mechanical strength. Further, it is submitted that Shimizu et al. in combination with McAndrew and AAPA teach the claimed invention.

In response to the applicant's arguments in the paragraphs on page 11 of the amendment dated 01/30/07, it is submitted that McAndrew clearly teaches using a composition having lead and antimony having weight percent ranges that substantially overlapping the claimed range to achieve good mechanical strength and does not teach away from using such teaching. See the abstract of McAndrew.

Allowable Subject Matter

Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on Mon-Frid, 10am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Long Pham
Primary Examiner
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LP

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